



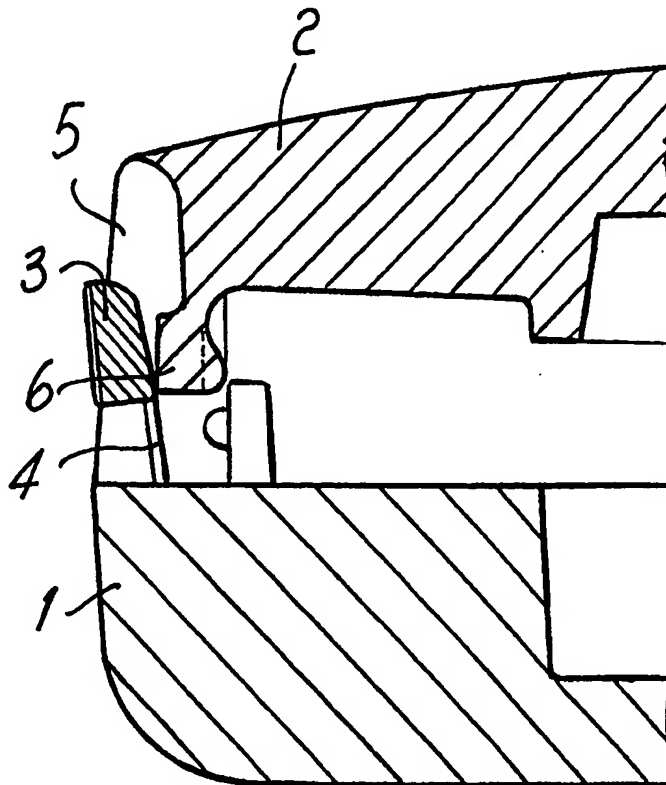
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<p>(21) International Application Number: PCT/EP98/05386</p> <p>(22) International Filing Date: 25 August 1998 (25.08.98)</p> <p>(30) Priority Data: MI97A001966 26 August 1997 (26.08.97) IT</p> <p>(71) Applicant (for all designated States except US): RISDON AMS S.R.L. [IT/IT]; Via A. Frank, 1-3, I-22076 Mozzate (IT).</p> <p>(72) Inventor; and (75) Inventor/Applicant (for US only): MARTINA, Attilio [IT/IT]; Via Zoagli, 5, I-20157 Milano (IT).</p> <p>(74) Agent: MODIANO, Guido; Modiano & Associati, Via Meravigli, 16, I-20123 Milan (IT).</p>	<p>(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).</p> <p>Published With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</p>	

(54) Title: TAMPER-EVIDENT SEAL FOR COMPACT CONTAINERS FOR COSMETIC PRODUCTS AND THE LIKE

(57) Abstract

A tamper-evident seal for compact containers for cosmetic products and the like comprising a strip element (3) which is formed monolithically with one element chosen between the lid (2) and the base (1) of a container in which the base and the lid are mutually hinged, the strip element (3) having a plurality of tabs (4) which are rigidly coupled to the lid (2) or to the base (1) of the container and being arranged at the closure line between the lid and the base.



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TAMPER-EVIDENT SEAL FOR COMPACT CONTAINERS FOR COSMETIC
PRODUCTS AND THE LIKE

Technical field

The present invention relates to a tamper-evident seal
for containers for cosmetic products and the like.

More particularly, the invention relates to a seal
which is meant to be applied to so-called compact-type
5 containers.

Background art

It is known that cosmetic products, such as for
example powder, blusher, cream makeup base, eyeshadow and
the like, are marketed in containers known as compacts,
which are constituted by a base element suitable to contain
10 the product and any accessories for applying it and by a
lid element which is hinged to the base element.

Said containers are often arranged in displays in
direct contact with the public, where the customer helps
himself/herself and can choose the product that he/she
15 wants.

A drawback suffered by this type of container and
strictly correlated to the type of sale to the public
relates to the fact that the container can be opened by the
customer, who can thus make contact with the product while
20 said container is still on display, thus deteriorating the
product or in any case damaging it.

In order to ensure that the containers cannot be
opened before purchase by the client, several solutions
have been devised to ensure the protection of the product
25 which are in any case adapted to permanently and evidently
indicate that the container has been tampered, in order to

ensure that the consumer can buy confidently.

Said protection is currently ensured by additional elements which are provided for association with the container. For example, blisters, labels placed at the
5 joining line between the base and the lid of the container, thin plastic films which partially or fully wrap around the container, and the like are normally used.

The use of these additional elements obviously entails a production cost and a cost for packaging in association
10 with the container and therefore entails longer production cycles.

Moreover, the use of additional elements makes the container less attractive aesthetically, and this is a considerable drawback considering the financial and human
15 resources that container manufacturers invest to provide products whose design has a strong impact on the consumer.

Disclosure of the Invention

The aim of the present invention is to provide a tamper-evident seal for containers of cosmetic products and the like which is obtained without having to resort to
20 additional elements besides the base and the lid of the container.

Within the scope of this aim, an object of the present invention is to provide a tamper-evident seal for containers of cosmetic products and the like which allows
25 to permanently indicate that the container has been opened.

Another object of the present invention is to provide a tamper-evident seal for containers of cosmetic products and the like in which the seal can be eliminated by tearing it off before it is possible to open the container.

Another object of the present invention is to provide a seal which is highly reliable, relatively easy to manufacture and at low costs.

This aim, these objects and others which will become
5 apparent hereinafter are achieved by a tamper-evident seal for compact containers for cosmetic products and the like, characterized in that it comprises a strip element which is formed monolithically with one element chosen between the lid and the base of a container in which the base and the
10 lid are mutually hinged, said strip element having a plurality of tabs which are rigidly coupled to said chosen element of the container and being arranged at the closure line between said lid and said base.

This aim, these objects and others are achieved by a
15 compact container for cosmetic products and the like, provided with a tamper-evident seal comprising a base which is meant to contain a product and a lid which is hinged to said base, characterized in that it further comprises a strip element which is formed rigidly with said one element
20 chosen between the lid and the base of said container, said strip element having a plurality of tabs which are monolithic with said one element chosen between the lid and the base of the container and being arranged at the closure line between said lid and said base.

Brief Description of the Drawings

25 Further characteristics and advantages of the present invention will become apparent from the following detailed description of preferred but not exclusive embodiments of the device according to the invention, illustrated only by way of non-limitative example in the accompanying drawings,

wherein:

Figure 1 is a partial sectional side elevation view of a compact-type container provided with the seal according to a first embodiment of the present invention, with the
5 container shown in an open position;

Figure 2 is a partial sectional side elevation view of the container of Figure 1 in the closed position, with the seal according to the invention;

Figure 3 is a front elevation view of the container of
10 Figure 1 with the seal according to the invention;

Figure 4 is a partial sectional side elevation view of the compact-type container with a seal according to a second embodiment of the present invention, shown with the seal in the various positions that said seal assumes during
15 tearing to open the container;

Figure 5 is a sectional side elevation view of the compact container of Figure 4, with the seal shown in the closure position;

Figure 6 is a plan view of the container of Figure 4,
20 with the seal according to the second embodiment of the present invention;

Figure 7 is a side elevation view of a compact container provided with a closure seal according to a third embodiment of the present invention;

25 Figure 8 is a detail view of the seal according to the third embodiment of the present invention; and

Figure 9 is a plan view of the compact container provided with the seal according to the third embodiment.

Ways of carrying out the Invention

In the figures, identical reference numerals designate

identical elements. The seal and other parts shown in their different embodiments have been designated for the sake of convenience with incremental numbers which increase by hundreds for the first, second and third embodiments.

5 With reference to Figures 1 to 3, the seal according to the first embodiment of the present invention is associated with a compact-type container which comprises a base 1 with which a lid 2, hinged to the base, is associated.

10 The base 1 is meant to contain the cosmetic product or the like and the lid can have for example a mirror on its inner side.

The seal according to the invention, designated by the reference numeral 3, is constituted by a strip element made
15 of plastics (such as polypropylene, ABS, etcetera) provided with tabs 4 which are appropriately spaced and are molded monolithically with the base 1 of the container.

Accordingly, the seal 3 is thus monolithic with the base of the container. The spacing of the tabs 4 is chosen
20 appropriately to ensure on the one hand that the container closes adequately and on the other hand that the opening of the container by tearing off the seal 3 is in any case an easy operation which does not require excessive force.

Figure 1 shows that the lid 2 of the container has a
25 groove 5 in which the seal 3 is accommodated for closure; said seal is shaped complementarily to said groove 5.

The groove, as shown in Figure 3, is formed on the edge of the lid 2, at the opening/closure region thereof.

The closure of the lid 2 onto the base 1 occurs by
30 virtue of the flexibility of the tabs 4, which allow the

seal 3 to flex outward and allow the lid to mate with the base. This flexibility, however, does not allow reopening, because once the seal 3 has been seated in the groove 5 there are no longer any points to grip in order to flex said seal outward; in any case this would be impossible owing to the engagement of a tooth 6, formed on the edge of the lid, with the seal 3.

The second embodiment of the seal according to the invention is illustrated with reference now to Figures 4 to 6. In this case, the seal is designated by the reference numeral 103 and its tabs are designated by the reference numeral 104.

In this case, the seal 103 is molded monolithically with the lid 2 of the container instead of with the base 1, and the groove 5, which was formed on the edge of the lid 2 in the first embodiment, is now instead formed on the edge of the base 1 and is designated by the reference numeral 105.

In this case also, the seal 103 is shaped complementarily to the groove 105.

The engagement tooth is now designated by the reference numeral 106 and is formed monolithically with the base 1 (again by molding) instead of with the lid 2.

The operation of this second embodiment is similar to the one earlier described.

The third embodiment of the seal according to the invention is now described with reference to Figures 7 to 9.

In this case, the seal, designated by the reference numeral 203, is arranged at the hinge 10 that connects the

lid 2 to the base 1, i.e., in the opposite position with respect to the one in which the seal is arranged in the first two embodiments.

The seal 203 is constituted, in this third embodiment, by an element which is again made of plastics and is molded monolithically with the base 1 or with the lid 2 of said container and is shaped substantially like a strip, with engagement tabs designated by the reference numerals 204.

Said tabs 204 are molded monolithically with the base or lid of the container and in this case also the seal must be removed by tearing.

The seal 203 acts, in this case, by preventing any opening of the container, except possibly for a partial one. The seal 203 is accordingly arranged so as to hinder the opening of the container, so that the lid 2 cannot rotate beyond a certain angle due to the fact that it makes contact with the seal, which is arranged so that the tabs 204 are perpendicular to the plastic strip or tab that constitutes the body of the seal.

The minimal opening allowed to the container, however, is not sufficient to allow to tamper with the product contained therein, and accordingly this third embodiment also achieves the intended aim and objects of the invention.

The container with the seal thus obtained is provided in two separate parts, in order to fill the base with the product; the hinge for closing the container with the seal is then inserted.

In practice it has been observed that the seal according to the invention fully achieves the intended aim,

since it can be manufactured monolithically with either the base or the lid of the compact container, avoiding the need to resort to an additional element as is usually done in order to protect the container and in any case provide
5 clear evidence of tampering therewith.

The provision of the seal monolithically with the container and therefore in a single production cycle allows to minimize costs in addition to providing a container whose aesthetic effect is not spoiled by labels,
10 transparent films or the like.

The seal thus conceived is susceptible of numerous modifications and variations, all of which are within the scope of the inventive concept.

Thus, for example, the shape of the strip element and
15 therefore of the groove formed in the edge of the lid or in the edge of the base can be different from what has been shown in the figures.

Likewise, the container may have a different plan shape than shown in figures 6 and 9.

20 As regards instead the container and the seal, the preferable material for its production is plastics, in view of its strength and flexibility properties, required to produce closure of the lid onto the base. However, other materials might also be used so long as they are compatible
25 with the product that must be placed inside the container.

Finally, all the details may be replaced with other technically equivalent elements.

In practice, the materials employed, so long as they are compatible with the specific use, as well as the
30 dimensions, may therefore be any according to requirements

and to the state of the art.

The disclosures in Italian Patent Application No. MI97A001966 from which this application claims priority are incorporated herein by reference.

CLAIMS

1 1. A tamper-evident seal for compact containers for
2 cosmetic products and the like, characterized in that it
3 comprises a strip element (3,103,203) which is formed
4 monolithically with one element chosen between the lid (2)
5 and the base (1) of a container in which the base (1) and
6 the lid (2) are mutually hinged, said strip (3) element
7 having a plurality of tabs (4,104,204) which are rigidly
8 coupled to said chosen element of the container and being
9 arranged at the closure line between said lid (2) and said
10 base (1).

1 2. A seal according to claim 1, characterized in that
2 said tabs (4) are formed monolithically with said base (1)
3 of the container.

1 3. A seal according to claim 1, characterized in that
2 said tabs (104) are formed monolithically with said lid (2)
3 of the container.

1 4. A seal according to claim 2, characterized in that
2 said seal (3) is arranged at the opening region of said
3 container lying furthest from the region for the mutual
4 hinging of said lid (2) and said base (1).

1 5. A seal according to claim 4, characterized in that
2 said lid (2) has a groove (5) which is adapted to
3 accommodate said seal (3), said seal having a profile which
4 is complementary to said groove (5).

1 6. A seal according to claim 5, characterized in that
2 the edge of said lid (2) is provided, at the opening
3 region, with at least one engagement tooth (6) for engaging
4 said seal (3) during the closure of said lid (2) on said

5 base (1).

1 7. A seal according to claim 3, characterized in that
2 said base (1) has, at its edge, in the opening region, a
3 groove (105) for accommodating said seal (103), said seal
4 (103) having a profile which is shaped complementarily to
5 said groove (105).

1 8. A seal according to claim 7, characterized in that
2 the edge of said base (1) has, at said opening region, at
3 least one tooth (106) for engaging said seal (103) during
4 the closure of said lid (2) onto said base (1).

1 9. A seal according to one or more of claims 1 to 3,
2 characterized in that said seal (203) is arranged at the
3 hinging region of said container, lying opposite the
4 opening region.

1 10. A seal according to claim 9, characterized in that
2 said strip element (203) is parallel to the edge of said
3 lid (2), said tabs (204) being substantially perpendicular
4 to said strip element (203), said strip element hindering
5 the opening rotation of said lid (2).

1 11. A seal according to one or more of the preceding
2 claims, characterized in that said strip element
3 (3,103,203) and said tabs (4,104,204), which are monolithic
4 therewith, are made of plastics.

1 12. A compact container for cosmetic products and the
2 like, provided with a tamper-evident seal, comprising a
3 base (1) which is meant to contain a product and a lid (2)
4 which is hinged to said base (1), characterized in that it
5 further comprises a strip element (3,103,203) which is
6 formed monolithically with one element chosen between the
7 lid (2) and the base (1) of said container, said strip

8 element having a plurality of tabs (4,104,204) which are
9 rigidly coupled to said chosen element of the container and
10 being arranged at the closure line between said lid (2) and
11 said base (1).

1 13. A container according to claim 12, characterized
2 in that said tabs (4) are formed monolithically with said
3 base (1) of the container.

1 14. A container according to claim 12, characterized
2 in that said tabs (104) are formed monolithically with said
3 lid (2) of the container.

1 15. A container according to claim 12, characterized
2 in that said seal (3) is arranged at the opening region of
3 said container, which lies opposite the region for the
4 mutual hinging of said lid (2) and said base (1).

1 16. A container according to claim 15, characterized
2 in that said lid (2) has a groove (5) which is adapted to
3 accommodate said seal (3), said seal having a profile which
4 is shaped complementarily to said groove (5).

1 17. A container according to claim 16, characterized
2 in that the edge of said lid (2) has, at the opening
3 region, at least one engagement tooth (6) for engaging said
4 seal (3) during the closure of said lid (2) onto said base
5 (1).

1 18. A container according to claim 14, characterized
2 in that said base (1) has, at its edge, in the opening
3 region, a groove (105) for accommodating said seal (103),
4 said seal having a profile which is shaped complementarily
5 to said groove (105).

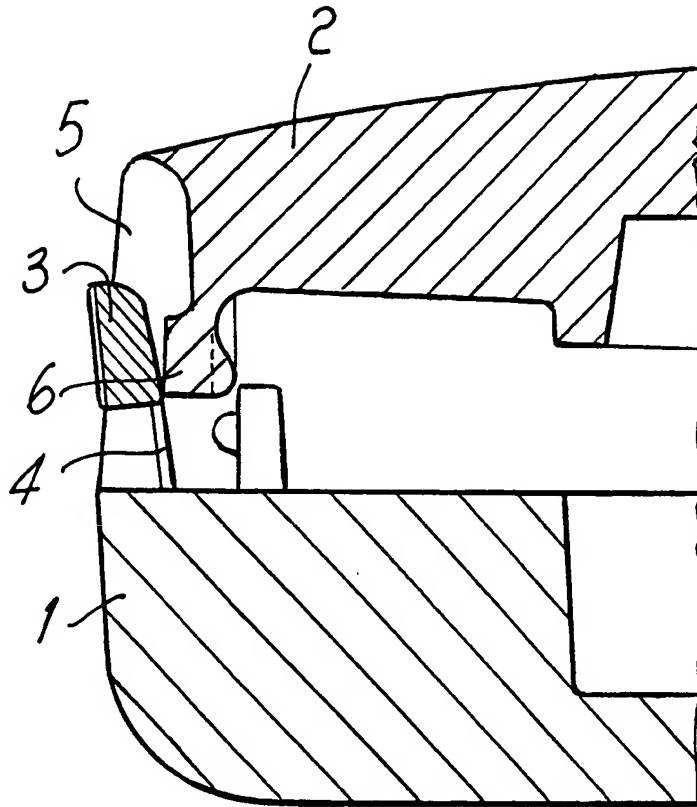
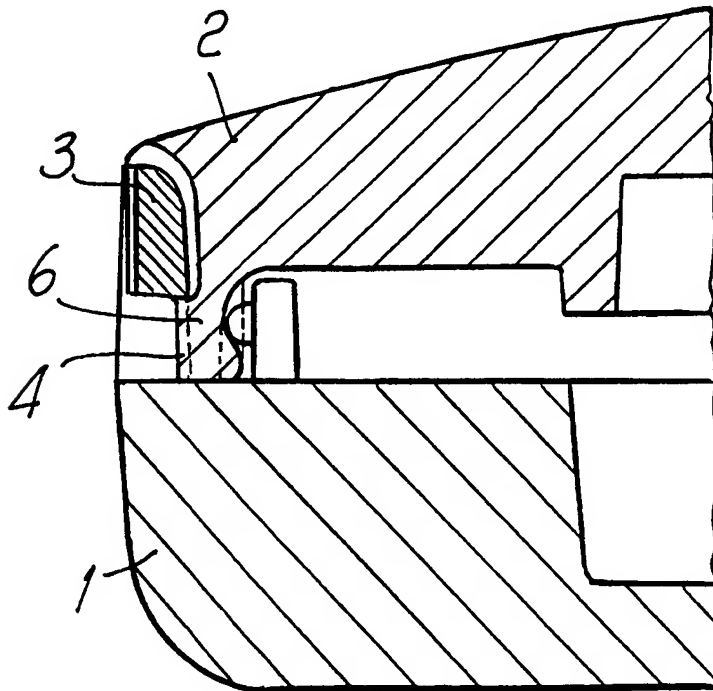
1 19. A container according to claim 18, characterized
2 in that the edge of said base (1) has, at said opening

3 region, at least one tooth (106) for engaging said seal
4 (103) during the closure of said lid (2) onto said base
5 (1).

1 20. A container according to one or more of claims 12
2 to 15, characterized in that said seal (203) is arranged at
3 the hinging region of said container, lying opposite the
4 opening region.

1 21. A container according to claim 20, characterized
2 in that said strip element (203) is parallel to the edge of
3 said lid (2), said tabs (204) being substantially
4 perpendicular to said strip element (203), said strip
5 element hindering the opening rotation of said lid (2).

1 22. A container according to one or more of the
2 preceding claims, characterized in that said container,
3 said strip element (3,103,203) and said tabs (4,104,203)
4 monolithic therewith are made of plastics.

*Fig. 1**Fig. 2*

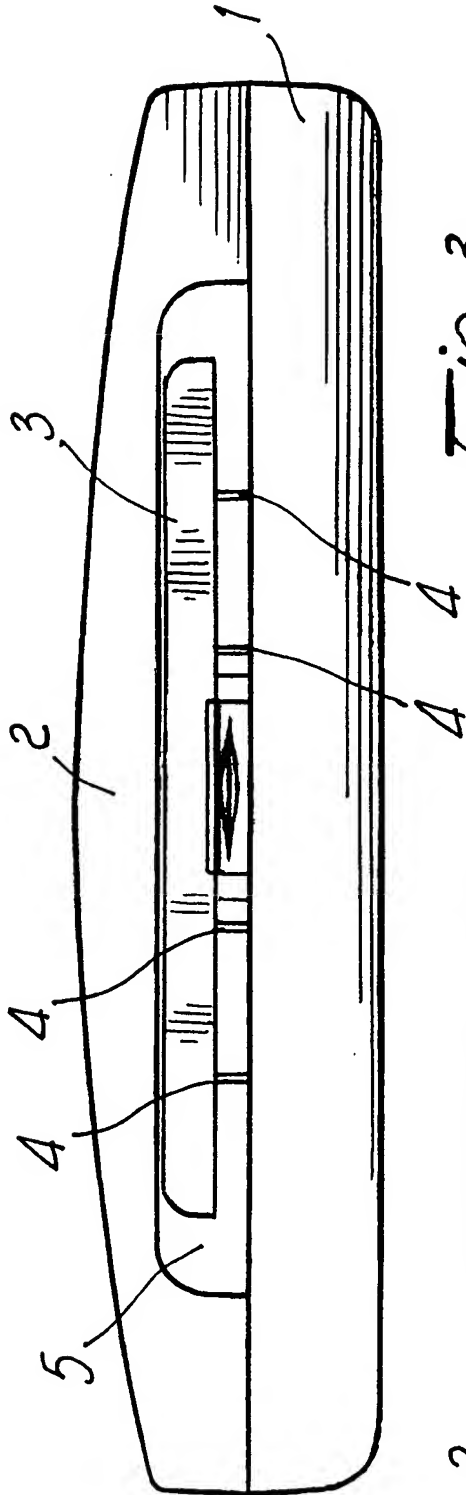


Fig. 3

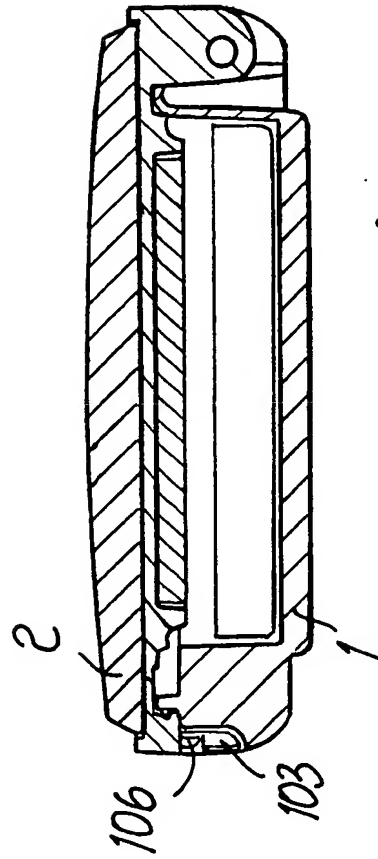


Fig. 4

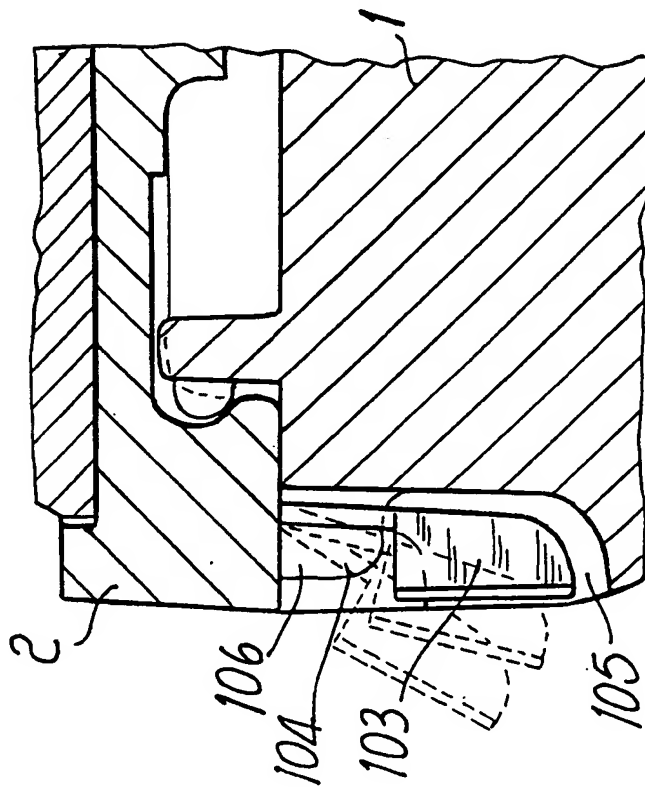


Fig. 5

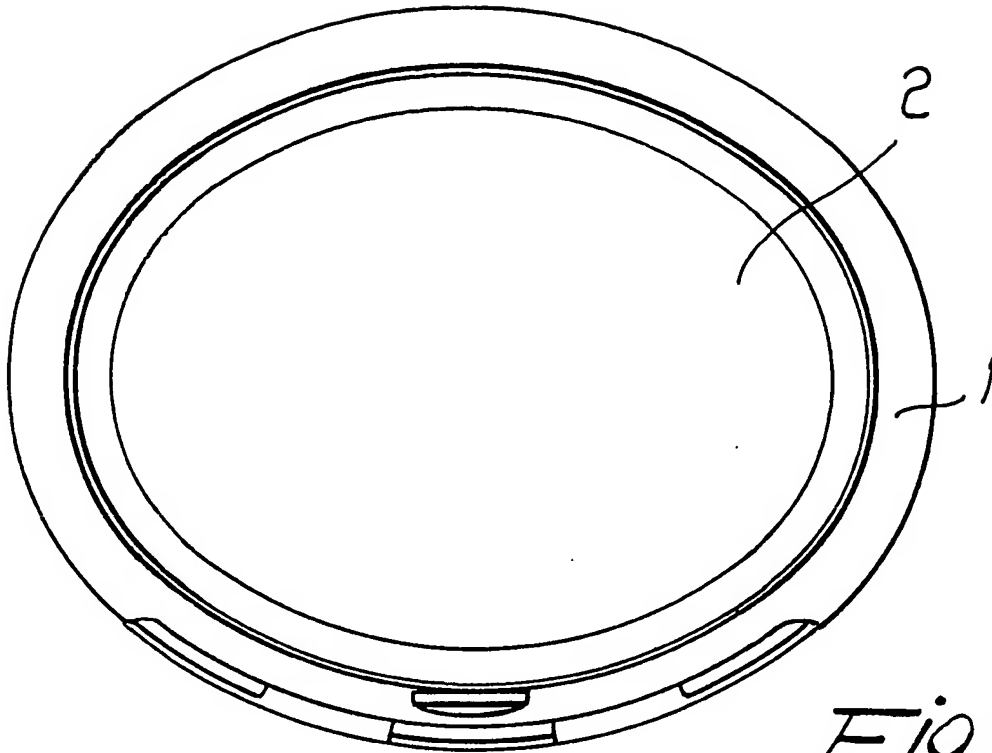


Fig. 6

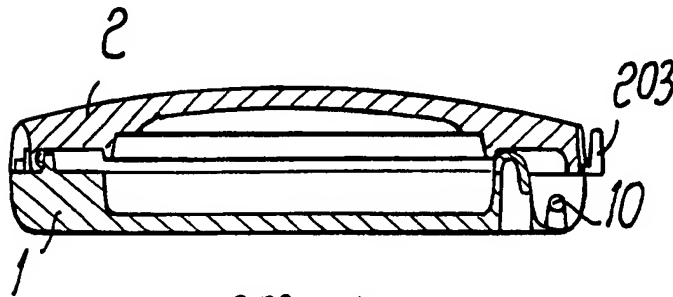


Fig. 7

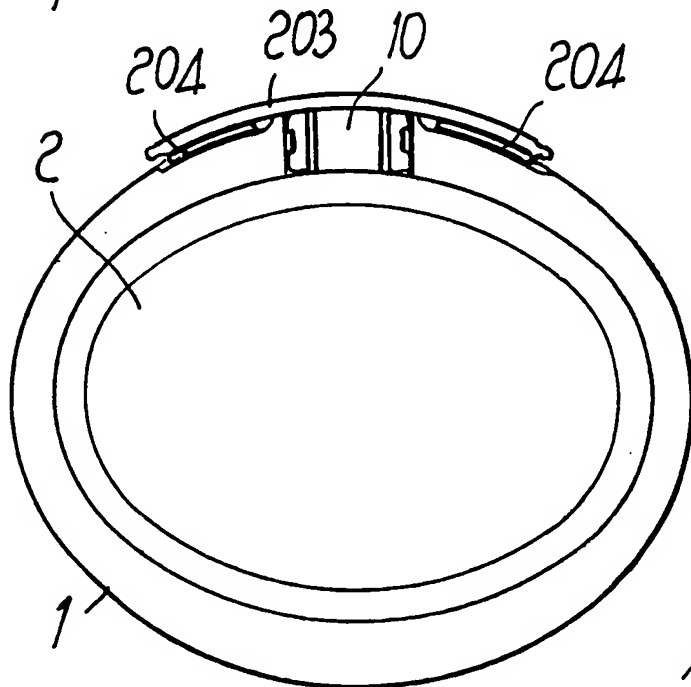


Fig. 9

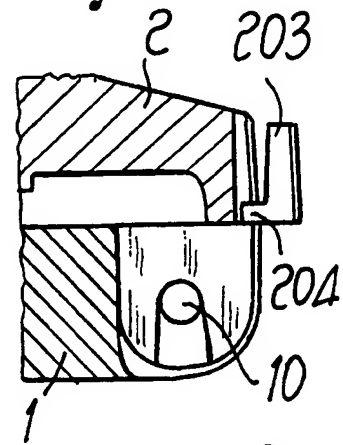


Fig. 8

INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 98/05386

A. CLASSIFICATION OF SUBJECT MATTER

IPC 6 B65D55/02

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 6 B65D A45D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	GB 2 151 216 A (DUMA) 17 July 1985	1,2,4, 11-13, 15,22
A	see page 1, line 84 - page 2, line 6; figures 1-4	6,17,19
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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Date of the actual completion of the international search

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INTERNATIONAL SEARCH REPORT

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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A	DE 43 13 225 A (INNOCOS INNOVATIVE VERPACKUNGEN) 27 October 1994 see column 5, line 34 - line 48; figures 1,2,7,12,13 -----	9,10,20, 21

INTERNATIONAL SEARCH REPORT

Information on patent family members

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